

Infectious Disease

Due to the poor sanitary conditions that exist in Thailand, there are many different categories of infectious diseases that military personnel could potentially be exposed to. The following paragraph gives a snapshot of infectious diseases that are endemic in Thailand.

Diarrheal Diseases

- Highly endemic: GI infections are a principle threat. Fecal oral transmission is extremely common from contaminated food water and ice.
- Pathogens possibly encountered: E. Coli, Shigella, Salmonella, and parasites.

Vector-Borne Diseases

- Japanese Encephalitis: Most prominent during rainy season.
- Dengue Fever : Highly endemic.
- Malaria: Moderately too highly endemic.

Other Food or Waterborne Diseases

- Viral Hepatitis A : Highly endemic.
- Viral Hepatitis E
- Typhoid and Paratyphoid Fevers: Highly endemic.

Sexually Transmitted and/or Bloodborne Diseases

- Viral Hepatitis B: Highly endemic.
- Gonorrhea
- Chlamydial
- Syphilis
- **HIV/AIDS 80% of prostitutes are infected in some areas**

Person to Person/Close Contact Diseases

- Tuberculosis: Highly endemic

Animal-Associated Diseases

- Rabies - present in 40% of stray dogs and cats
- Leptospirosis - present in fresh water, soil and vegetation contaminated by animal urine
- Anthrax - present in infected animals and animal products.

Mosquito Borne Diseases



Aedes aegypti: Carrier of Dengue Fever

In Thailand there were over 349,000 officially reported cases of Malaria in 1988 and 57,000 confirmed cases of Malaria in 1994. 58% of Malaria in Thailand is falciparum type the type that can result in death 24 hours from onset of symptoms.

- You must protect yourself during the day and night because mosquitoes which transmit Dengue are day biters and the female Anopheles mosquito the Malaria vector is active at night.

Preventive Medicine Information

Immunizations for All Personnel
Hepatitis A vaccine, MMR, Td, Influenza, Typhoid
Japanese Encephalitis Vaccine.

Immunizations for Selected Personnel
As dictated by appropriate medical authority. Consideration of other vaccines (e.g., HBV, rabies, anthrax) may be appropriate.

Malaria Chemoprophylaxis

Doxycycline 100 mg/day begin 2 days before entering risk area; continue daily while in country and for 28 days after departure. In addition, after deployment start and complete malaria chemoprophylaxis with primaquine 15mg/day for 14 days after leaving malarious area. Personnel staying in urban tourist areas such as Pattaya, Chiang Mai and Bangkok are not at risk. Personnel in northern and central Thailand should take malaria chemoprophylaxis, personnel in southern Thailand should take chemoprophylaxis unless working and living in and urban conditions.

Supplies

Procure DEET, permethrin, bednets/poles, Sunscreens, lip balm, and field sanitation equipment.

Note: Treat BDUs and Bednets with Permethrin.

Testing

HIV, PPD, and G6PD

Before Deployment

- Medical records should be screened to ensure all routine immunizations are up to date.
- All deploying personnel should complete a Predeployment Health Assessment questionnaire.

During Deployment

- Consume food, water, and ice only from US approved sources.
- Practice good personal hygiene, hand washing, and waste disposal.
- Avoid sexual contact. If sexually active, use condoms.
- Use DEET and other personal protective measures (e.g. proper wear of uniform, use of bed nets, daily "buddy checks" in tick and mite infested areas, etc.) against insects and other arthropod-borne diseases.
- Continue malaria chemoprophylaxis.
- Minimize nonbattle injuries by ensuring that the proper safety measures are followed: Water consumption, work/rest cycles, acclimatization to environment, and stress management.
- Eliminate food/waste sources that attract pests in living areas.
- Avoid contact with animals and hazardous plants.

After Deployment

- Continue malaria chemoprophylaxis.
- Seek medical care immediately if ill, especially with fever.
- Receive follow up PPD and HIV testing.
- Complete Post Deployment Health Assessment.

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THAILAND

FORCE HEALTH PROTECTION

Thailand

Thailand is a Southeast Asian nation that is undergoing rapid economic development. As a result, major cities and resorts generally are relatively modern, though basic sanitation can be extremely variable. Rural areas are undeveloped and generally lack basic sanitation, water purification, and adequate sewage services.

This overview of Force Health Protection is designed to disseminate information to military personnel about the Public Health Treat that exists in Thailand. It also offers guidelines that deployed military personnel that can follow in order to lower the risk of contracting one of the many exotic diseases present in Thailand.

OUTLINE

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Topography

Thailand - Slightly larger than California, 511,770 sq. km (197,594 sq. mi.), divided into five geographic regions.

- (1) Southeast coast, low fertile plain separated from the central valley by low mountains.
- (2) Northeastern plateau, or Korat Plateau, occupying one-third of the nation.
- (3) The northern and western mountains, with peak elevations up to 2,590 meters (8,500 ft.).
- (4) The Central Basin, which encompasses 25 percent of the land area, is the most heavily populated and dominates the country economically.
- (5) Peninsular Thailand occupies the northern portion of the Malay Peninsula between Burma and Malaysia



Population

Eighty percent of Thailand's population is rural and centered on watercourses in the Chao Phraya and Mekong River basins. Metropolitan Bangkok, Thailand's largest city with a population of more than 9 million, has a population density exceeding 4,100 inhabitants per square km. (10,620 per sq. mi.), and contains the majority of Thailand's urban population.

Total Population: 60.7 Million

Water Supply

Sources: include streams, shallow dug-wells, rainwater catchments, rivers, and reservoirs. Water shortages occur countrywide during the dry season.

Treatment/Distribution: Water treatment and distribution systems exist in the larger cities and on most military installations, but are often plagued by leaks, illegal connections, and poor maintenance, resulting in contamination at the tap.

In rural areas, water is seldom treated and is often drawn from heavily contaminated surface sources. Although bottled water is readily available, poor quality control casts doubt on its potability.



- Untreated domestic and industrial wastes and other non-points sources of contamination degrade water quality in both rural and urban Thailand.
- Air quality in urban areas is "visibly poor".
- Urban air contains exceedingly high levels of suspended particulate matter produced by vehicle traffic and open-air burning.
- Hazardous waste, commonly mismanaged throughout Thailand, is usually dumped illegally, or mixed with household refuse and sent to landfills for improper disposal.

There are many Venomous Snakes and Arthropods that are indigenous to Thailand. Some are of these creatures can be quite dangerous. This section offers information about how you can protect yourself from harmful bites or stings.

Snakes

At least 175 snake species have been identified in Thailand, of which 85 are venomous. All venomous snakes are so from birth and even newborns can inflict dangerous bites. About 10,000 snakebite injuries are reported in Thailand annually.

How to safeguard against snakes

- Avoid brush, high grass, or areas with excess debris
- If traveling at night use a flash light.
- Shake out sleeping bags at night.
- Sleep off of the ground if possible.
- Look over area before sitting down especially among rocks and deep grass.
- If bitten try to get an accurate description of the snake to assist medical personnel in treating you. Do not panic.
- Most snake do not attack unless provoked, if you see a snake go in the other direction do not try to kill it avoidance is the best protective measure.

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Sanitation and Living Conditions

Only 2 percent of Bangkok's population is served by sewer systems; additional hook-ups and treatment plants are being developed to accommodate 20 percent of the population. Most sewage flows into street drains and open canals before discharging into waterways. The urban poor live in squatter settlements and have limited access to municipal water and sewage disposal. In rural areas, water quality is degraded since most communities lack sewerage systems and wastewater treatment systems. A recent deployment found solid waste accumulation to be a major problem in several remote villages. The use of night soil for fertilizing fields is common, resulting in contamination of food and most rural water sources. Inferior food safety and sanitation practices occur throughout Thailand. Reportedly, at least 60,000 cases of food poisoning were attributed to consuming bacteria-contaminated food in 1995.

Contamination and Pollution

Scorpions

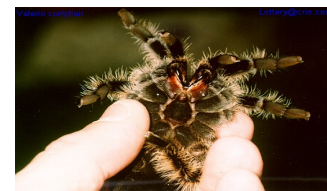


Scorpions: Although scorpions capable of inflicting a painful sting occur, none of them are known to be life threatening, but military personnel still must know how to protect themselves.

Safeguarding against Scorpions

- Use a long handled tool or stick to turn over debris before removing it.
- Remove accumulation of boards, rocks, and other debris. Wear leather gloves doing this.
- Inspect and shake out clothing, shoes and bedding before use.

Spiders



There are several species of spiders, including some very large and physically imposing tarantulas, capable of inflicting a painful bite, none of them are known to be life-threatening.

Protection against Spiders

- Remove spider webs from buildings.
- Shake out and inspect clothing, shoes, and bedding before use.
- Eliminate collections of papers and unused boxes.
- Thoroughly clean beneath and behind furniture.
- Wear gloves when handling paper or cloth that has been stored for long periods.

Other Arthropods of Interest

- Centipedes
- Millipedes
- Rove Beetles

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